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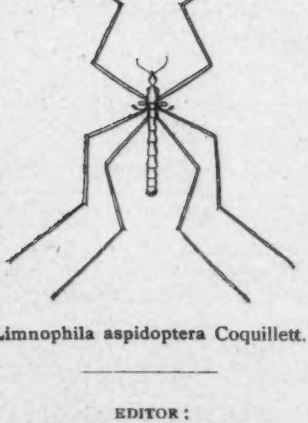

Limnophila aspidoptera Coquillett.

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APTERA

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ENTOMOLOGICAL NEWS

AND

PROCEEDINGS OF THE ENTOMOLOGICAL SECTION

ACADEMY OF NATURAL SCIENCES, PHILADELPHIA.

VOL. XVII. JANUARY, 1906. NO. 1.

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Ways of Progression in Waterbugs.

BY J. R. DE LA TORRE BUENO.

In ENTOMOLOGICAL NEWS for December, 1904 (p. 344), Mr. G. W. Kirkaldy has a suggestive note on the subject of oaring in waterbugs, in which he refers to Professor Packard's remarks in "Half Hours with Insects," on the motion of the legs in swimming in *Ranatra* and *Belostoma* and (*Amorgius*). In February, 1905 (p. 53), the NEWS published a brief note of mine on *Corixa*, *Notonecta* and *Belostoma*, and in March (p. 88), Mr. C. S. Brimley, of Raleigh, threw further light on the method in *Benacus griseus*. These brief notes suggested to me that since I would have living waterbugs in my aquaria through the spring and summer, it might be well to look into the subject a little more thoroughly, the more so that all the general works I have been able to consult content themselves with vague remarks. In connection with my breeding experiments, the following observations were made:

The position back down assumed in swimming by our American genera of the family *Notonectidæ* is too well known to call for more extended mention. In *Notonecta* (*irrorata*, *undulata*, *variabilis* and *insulata*) and in *Buenoa* (*Anisops*, par-

tim), the third pair of pedes only are natatorial and the tibiæ and tarsi are heavily fringed with long hairs. The legs are moved simultaneously and quite rapidly in powerful backward strokes, the fringing ciliæ expanding on the propulsive and closing on the return stroke. *Plea* agrees with the larger Notonectids in the position and method, but the stroke is quicker and more clipping and the tibiæ and tarsi are very sparingly provided with short hairs. On land, both *Notonecta* and *Buenoa* move very awkwardly. When first put on any surface they jump about and move the third pair of legs desperately with the swimming motion, but as soon as they get their bearings, they begin to crawl rather slowly and painfully by means of the first and second pairs of pedes. *Plea*, on the other hand, can very frequently be seen creeping among the water plants in which it hides, and at other times it moves along the surface film, actually *walking* suspended from it, back down of course. On land it walks, using all three pairs of pedes.

Corixa swims using both the pedes of the third pair simultaneously, as in *Notonecta*, and the position in the water is back up. On land, it jumps and skips about, the first and third pairs of legs being quite specialized and only the second ambulatorial, which naturally prevents the bug from walking.

In the *Belostomatidæ* I have been unable to make fresh observations on *Benacus* and *Amorgius* (=*Belostoma*, olim), but having had a number of *Belostoma* (*Zaitha*) *fluminea* in my aquaria at various times, I have been able to study this last species with care and to repeat my observations several times. *Benacus* I have never seen in the water. Of *Amorgius obscurum* Dufour I have had several nymphs which were brought to maturity. My recollection is that they move the hind legs together in swimming, confirming Mr. Brimley's observation on *Benacus*. On land they scuffle along pretty rapidly. With regard to *Belostoma fluminea* Say to confirm previous observations, I confined a bred specimen in a glass dish so small that while it could move its legs freely, it was not able to stir from under my magnifier, no matter how furiously it might paddle. It was then stirred up, and its motions could be observed

without much difficulty. The second and third pair of pedes are moved alternately and quite rapidly, the second pair rowing while the third recovers, and the second recovering while the third gives a vigorous stroke. The femora cross each other when the second pair gives the propulsive stroke and are widely separated when it reaches the extreme of the return, the third pair being at the end of the backward movement. The stroke of the second pair of legs in all likelihood merely helps to conserve the momentum imparted by the powerful third pair, which does all the work. The second pair is but feebly set with hairs while the third is provided with abundant fringes along the edges of the tibæ and tarsi. As in other waterbugs, these hair-fringes fold back in the return and expand on the propulsive stroke. *Belostoma* generally swims back up, but at times it moves abdomen up. On land it runs with considerable celerity and ease, employing the two posterior pairs of legs.

Pelocoris I have not succeeded in observing closely. This bug moves its legs so rapidly that they can scarcely be followed. However, the third pair is mainly used in swimming, and the legs are moved together. It runs quite briskly on land and in the water, its natural home, it creeps among the water plants.

The only Nepid I have had the opportunity to observe is *Ranatra quadridentata* Stal., of which I keep a few living ones every summer. I have watched this bug swim repeatedly, and as its motions are quite slow, it has been possible to analyze them much more easily than those of the others. As I have elsewhere noted, *Ranatra* employs in locomotion only the second and third pair of legs, the first being strictly raptorial and prehensile. Further, since *Ranatra* is not one of the swimming waterbugs (in fact its affinities are with land forms as pointed out by Schiödte),* its locomotion under water is rather awkward, to say the least. The pedes move alternately back and forward, the second pair alternating with the third, much as in *Belostoma*, but in a much more leisurely manner. Again, as in *Belostoma*, at one extreme of the

* Ann. Nat. Hist. (4) vi., 1870, p. 225, etc.

strokes, the extremities of the legs are widely separated, and at the other, the femora are crossed, those of the second pair crossing below the third. On land, however, *Ranatra* runs quite rapidly, but the ungainly length of its legs seems to trip it up when in a hurry.

The meagerness of information regarding these habits has led me to the studies outlined above. It is to be hoped that the rising generation of entomologists may give a little less time to hair-splitting classifications and devote its energies to investigations of habits and life-histories of other than economically important groups, or than those which, like butterflies, are largely æsthetic; and to such lovers of the insect-folk do I look for further light on these highly interesting but financially unremunerative subjects.

Notes on the Egg-laying Habits of Culex curriei Coq.

By H. J. Quayle, Ames, Iowa.

During the past summer the writer was engaged in mosquito control work along the portion of the San Francisco bay shore extending from San Mateo to South San Francisco. The territory contiguous to the marsh here has long been noted for its abundant supply of mosquitoes, and the species giving the bulk of the trouble was *Culex curriei* Coq.

Early in the campaign, my attention was directed to the fact that larvæ were appearing exclusively in pools that were reached only by the monthly high tides, and which were dry for a portion of each month. This led me to infer that, like the salt marsh species in New Jersey, this species chose the mud of the drying pools rather than water in which to lay its eggs. Consequently mud was taken from such pools and submerged with ordinary sea water when, in the course of two or three days, wrigglers invariably appeared. Another method of studying this egg-laying habit consisted in sinking ordinary soap boxes, with the bottoms first removed, to a depth of two or three inches in the mud of pools, where larvæ were likely to appear. These boxes were thoroughly screened at the top to prevent the entrance of adults, and were kept

from floating away with the tides by means of stakes driven into the ground. When the monthly high tide reached the pool, water covered the mud within the box by seepage from below, the top being above high tide water, and in due time wrigglers would appear inside the box as abundantly as in the pool outside. These experiments, and the fact that throughout the season larvæ appeared in such situations only, convinced me that *Culex curriei* lays its eggs in mud by preference, if not exclusively.

I have negative evidence to the effect that this species winters in the egg state, but space here will not permit of an account of this. During the past year (1905) the eggs first began to hatch in February, the first larvæ appearing on the 20th. Despite the fact that no adults were seen after April, due to the effective control work, larvæ appeared in these temporary pools in increasing numbers with each high tide until June. There is but one explanation for this, and this is, that the eggs do not all hatch with the early spring tides, the majority of larvæ not appearing until the higher temperatures of May and June.

During the season of 1904, a brood of *curriei* appeared each month as regularly as the tides from February to September inclusive, making eight in the season. In arid climates like that of California, where the rains cease in the early spring, the pools along the margin of the marsh depend for their formation entirely upon high tide water, consequently in the control work of the past summer it was only necessary to visit the marshes once each month, during the week of full moon, to find all the wrigglers that would appear for that month.

This species was also found to be migratory, and in 1904 was found in the hills toward the ocean, ten miles from its breeding ground, along the bay shore. It is hardly necessary to add that this species is a strictly salt marsh form in this section, and is the most abundant and annoying mosquito of the Bay region of California.

How doth the busy little bee
Improve each shining minute?
By flying 'round the can to see
The good things that are in it.

Standards of the Number of Eggs Laid by Insects—IV.*

Being averages obtained by actual count of the combined eggs from twenty (20) depositions or masses.

By A. Arsene Girault.

5. Arilus cristatus Linnaeus.

No.	Date, 1903	No. counted per mass	Successive totals	Av. per egg mass	Max.	Min.	Range	
1	Mar. 20	160	160	160			172	
2		136	296	148				
3		136	432	144				
4		138	570	142.5				
5		114	684	136.8				
6		118	802	133.6				
7		90	892	127.4				
8		167	1059	132.3				
9		159	1218	135.3				
10		126	1344	134.4				
11		125	1469	133.5				
12		133	1602	133.5				
13		119	1721	132.3				
14		153	1874	133.7				
15		105	1979	132				
16		151	2130	133				
17		111	2241	132				
18		42	2283	126		42		
19		172	2455	129.2	172			
20		112	2567	128			42	
20			2567	128	172	42	130	Finals

The egg-masses were collected at Annapolis, Md., in a small peach orchard, where they have been unusually abundant for the past three or four years. In other orchards, in the immediate vicinity, none could be found, nor on trees other than fruit trees, except rarely. The insect apparently shows quite a preference for peach, as a place of deposit for eggs, and it seems to have a tendency to exist in isolated colonies.

Most of the estimates of the number of eggs deposited by this insect fall below the average obtained.

* For the first three of this series see Ent. News, 1901, p. 305; 1904, pp. 2-3, and 1905, p. 167.

M. Witte says the peace of Portsmouth was signed in order to get rid of the mosquitoes.

Parasitic Hymenoptera of Algonquin, Illinois.—III*.

By Wm. A. Nason, M.D.

PROCTOTRYPIDÆ.

Pristocera armifera Say.
4 specimens ♂.
July 17, 28, 1895.
Aug. 26, 1894.
Sept. 10, 1896.

Lælius trogodermatis Ashm.
1 specimen ♀.
May 30, 1895.

Perisemus mellipes Ashm.
1 specimen ♂.
June 4, 1894.

Goniozus cellularis Say.
1 specimen ♀.
Aug. 12, 1895.

Goniozus columbianus Ashm.
1 specimen ♀.
June 2, 1895.

Goniozus platynotæ Ashm.
1 specimen ♀.
May 11, 1895

Chelogynus canadensis Ashm.
1 specimen ♀.
June 28, 1894.

Aphelopus albopictus Ashm.
1 specimen ♂.
July 16, 1895.

Lygocerus floridanus Ashm.
1 specimen ♀.
May 25, 1894.

Megaspilus popenoei Ashm.
1 specimen ♀.
Oct. 2, 1895.

Ceraphron flaviscapus Ashm.
1 specimen ♀.
May 21, 1896.

Ceraphron pedalis Ashm.
1 specimen ♀.
May 21, 1896.

Ceraphron punctatus Ashm.
1 specimen ♀.
July 18, 1895.

Ceraphron algonquinus Ash. n. sp.
17 specimens ♀.
May 23 to Sept. 19, 1895.
Co-types, types in Ashm. coll.

Ceraphron salicicola Ashm.
3 specimens ♀.
April 28, 29, 1896.

Phanurus flavipes Ashm.
2 specimens ♀.
May 12, 21, 1896,

Telenomus pusillus Ashm.
1 specimen, ♀.
May 10, 1896.

Telenomus persimilis Ashm.
3 specimens ♀.
May 10, 20, 1896.

Telenomus podisi Ashm.
5 specimens ♀.
Oct. 3, 6, 1895.
May 29, 1896.

Trissolcus euschisti Ashm.
2 specimens ♀.
Sept. 27, 1895.
Oct. 6, 1895.

Trissolcus podisi Ashm.
1 specimen ♀.
May 21, 1896.

Ocoloides howardii Ashm.
1 specimen ♀.
Sept. 17, 1895.

Anteris virginiensis Ashm.
2 specimens ♀.
June 8, 21, 1895.

Amblyaspis californicus Ashm.
1 specimen ♀.
Sept. 27, 1895.

Polymecus picipes Ashm.
1 specimen ♀.
May 10, 1895.

Sactogaster anomaliventris Ashm.
1 specimen ♀.
May 27, 1896.

* Determinations were all made by Dr. Wm. H. Ashmead of Washington, D. C.

Caloteleia marlattii Ashm.
8 specimens ♂, ♀.
Sept. 21, 1893.
Sept. 10, 1895.
May 21 to June 5, 1896.
Polygnotus salicicola Ashm.
4 specimens ♂, ♀.
May 20, 21, 26, 1896.
Proctotrypes rufigaster Prov.
4 specimens ♂, ♀.
Sept. 13, 1894.
May 23, 1895.
June 21, 1896.
Proctotrypes terminalis Ashm.
1 specimen ♀.
Oct. 16, 1895.
Proctotrypes abrupta Say.
1 specimen ♀.
May 25, 1894.
Proctotrypes obsoletus Say.
1 specimen ♀.
Proctotrypes simulans Ashm.
2 specimens ♀.
May 6, 1895.
Anectata hirtifrons Ashm.
1 specimen ♀.
July 3, 1895.
Paramesius terminatus Say.
1 specimen, ♀.
July 29, 1895.
Paramesius pallidipes Ashm.
2 specimens ♂, ♀.
Aug. 26, 1894.
Aneurhynchus virginicus Ashm.
1 specimen ♀.
Oct. 16, 1895.
Galesus quebecensis Prov.
1 specimen ♀.
Oct. 4, 1893.
Tropidopria conica Fabr.
4 specimens ♀.
June 30, 1894.
May 3, 1896.
Loxotropa ruficornis Ashm.
1 specimen ♀.
Sept. 19, 1894.
Loxotropa abrupta Thoms.
1 specimen ♀.
Oct. 6, 1895.
Loxotropa californica Ashm.
1 specimen ♀.
July 8, 1895.
Diapria californica Ashm.
1 specimen ♀.
May 26, 1896.
Trichopria pentaplasta Ashm.
1 specimen ♀.
Aug. 31, 1894.
Trichopria popenoei Ashm.
1 specimen ♂.
May 30, 1895.
Phænopria minutissima Ashm.
1 specimen ♀.
June 26, 1894.
Basalys fuscipennis Ashm.
1 specimen ♂.
Sept. 19, 1894.

MYMARIDÆ.

Gonatocerus welateri Ashm.
1 specimen ♀.
May 10, 1896.
Cosmocoma howardii Ashm.
1 specimen ♀.
May 10, 1896.
Cosmocoma maculipes Ashm.
5 specimens ♀.
May 10 to 13, 1896.

PELECINIDÆ.

Pelecinus polyturator Drury.
1 specimen ♀.

CYNIPIDÆ.

Neuroterus nigrum Gill.
3 specimens ♀.
April 11, 16, 1896.
Neuroterus noxiosus Bass.
1 specimen ♀.
May 25, 1895.
Neuroterus vernus Gill.
5 specimens.
May 6, 1896.

Ceroptres tuber Fitch.
7 specimens ♂, ♀.
June 10, 1896.
Synergus lana Fitch.
7 specimens ♂, ♀.
July 23, 1895.
July 25, 1895.
July 10, 1896.
Callirhytis seminator Harris.
2 specimens ♀.
April 13, 1895.
April 23, 1895.
Anacharis marginata Prov.
4 specimens ♀.
Aug. 8, 1895.
Aug. 12, 1895.
Figitodes 5-lineata Say.
15 specimens ♂, ♀.
June 4, 14, 1894.
July 19 to Sept. 10, 1895.
June 1, 1896.
Figites inermis Prov.
1 specimen ♀.
Figites floridanus Ashm.
13 specimens ♂, ♀.
June 24 to Sept 17, 1895.
June 1, 1896.
June 10, 1896.
Kleidotoma nigrosus Ashm.
2 specimens ♀.
Sept. 27, 1895.
Oct. 2, 1895.
Co-types, type in Ashm. coll.
Kleidotoma bakeri Ashm.
6 specimens ♂, ♀.
May 3 to June 13, 1896.
Aug. 12, 1895.
Hexaplasta monilicornis Ashm.
2 specimens ♂, ♀.
May 12, 21, 1896.
Hexaplasta erythrocera Ashm.
1 specimen ♂.
May 10, 1896,
Eucoila rubripes Ashm.
1 specimen ♀.
June 13, 1895.
Eucoila vulgaris Ashm.
21 specimens ♂, ♀.
May 17 to Sept. 12, 1894.
June 11 to Sept. 17, 1895.
May 10, 24, 1896.
Eucoila mellipes Say.
1 specimen ♀.
May 21, 1896.
Eucoilidea canadensis Ashm.
2 specimens ♂, ♀.
Eucoilidea longicornis Ashm.
4 specimens ♀.
June 10, 1895.
May 3, 21, 1896.
June 21, 1896.
Psilodora impatiens Say.
2 specimens ♀.
July 10, 1894.
June 10, 1896.
Melanips canadensis Ashm.
1 specimen ♀.
Oct. 5, 1895.
Melanips subcompressa Prov.
1 specimen ♀.
Oct. 2, 1895.
Melanaspis iowensis Ashm.
2 specimens, ♀.
Sept. 17, 1895.
Solenaspis singularis Ashm.
1 specimen ♀.
July 25, 1895.
Solenaspis hyaliniformis Ashm.
1 specimen ♀.
Solenaspis abnormis Ashm.
1 specimen ♂.
June 10, 1896.
Trybliographa anthomyiæ Ashm.
1 specimen ♀.
April 20, 1896.
Heptamerocera marlatti Ashm.
2 specimens ♀.
May 10, 1896.
Tetrahapta nasoni Ashm.
2 specimens ♀.
May 3, 1896.
May 13, 1896.

Determinations of Some Texas Coleoptera With Records.

By Elbert S. Tucker.
Museum Assistant in Systematic Entomology University of Kansas, Lawrence.

On account of personal interest in the insect fauna of Texas, due to a collecting trip to Galveston, in May, 1903, as a member of a party under direction of Dr. F. H. Snow, for the University of Kansas, the writer recently agreed to name some beetles belonging to the Agricultural and Mechanical College of Texas, at College Station, Brazos County, at the request of Mr. A. F. Conradi, the Acting State Entomologist. Mr. Conradi proposed as an inducement for the work that a list of determinations would be helpful in making up a general list of the Coleoptera of Texas, and the names and records herewith show the results of study of the specimens which he supplied. All determinations were personally made by comparison with named specimens in the collection of beetles of the University of Kansas and with the aid of literature, except for that portion of the list where special credit is given to authorities to whom the specimens were submitted in cases of uncertainty. With the exception of *Balaninus victoriensis* Chitt., all of the beetles were collected in Texas, mostly at the Agricultural and Mechanical College, to which institution they have been returned, less a few duplicates retained by kind permission.

The arrangement follows Henshaw's check list by numbers when given.

Family CICINDELIDÆ.

19a. *Cicindela scutellaris* Say, var. *unicolor* Dejean. Wellborn, Brazos River, March 22, 1904.

32. *Cicindela vulgaris* Say. Wellborn, Brazos River, March 22, 1904.

Family CARABIDÆ.

184. *Calosoma lugubre* LeConte. College Station.

220. *Scarites subterraneus* Fabricius. College Station, March 31, 1904.

387. *Bembidium variegatum* Say. College Station, May 9, 1903.

617. *Evarthrus heros* Say. Comanche, March 17, 1904.

847a. *Casnonia pennsylvanica* Linnæus, variety *suturalis* Chaudoir. College Station, January 30, 1903; Buffalo Springs, May 5, 1903.

935. *Pinacodera platicollis* Say. College Station, January 4, 1904. Striæ not deep; abdomen protrudes farther beyond elytra than with compared examples, regarding which Mr. Charles Liebeck has written: "about the usual form; the extent of abdominal segment beyond the elytra is variable."

1120. *Harpalus gravis* Le Conte. Waco, September 20, 1902, collected by L. H. Scholl.

1201. *Anisodactylus piceus* Le Conte. College Station, February 27, and May 1, 1904; Avalon, April 12, 1904. The brownish colored examples were probably freshly emerged, therefore had not developed to black.

Family GYRINIDÆ.

1539. *Dineutes carolinus* Le Conte. College Station.

Family COCCINELLIDÆ

3064. *Cycloneda sanguinea* Linnæus. College Station, May 12, 1904 May 10, 1905, C. E. Sanborn. Predaceous on plant lice.

3065a. *Olla abdominalis* Say. Sabinal, May 24, 1904.

3084. *Exochomus contristatus* Muls. College Station, May 10, 1505. C. G. Sanborn. Predaceous on plant lice.

3135. *Scymnus terminatus* Say. College Station, August 8, 1904.

3156. *Scymnus tenebrosus* Muls. College Station, May 10. C. E. Sanborn. Predaceous on plant lice.

Family EROTYLIDÆ.

3202. *Languria tædata* Le Conte. College Station April 12, 1903.

Family ELATERIDÆ.

4085. *Lacon rectangularis* Say. College Station, February 27, 1904.

Family BUPRESTIDÆ

4639a. *Chrysobothris femorata* Fabricius, variety *alabamæ* Gory. Kosse, April 19, 1904.

4750. *Agrilus muticus* Le Conte. College Station, April 28, 1903, and April 7, 1904.

Family MALACHIDÆ

5007. *Collops balteatus* Le Conte. Wellborn, Brazos River, March 29, 1903: College Station, July 27, 1902.

Family CLERIDÆ

5215a. *Chariessa pilosa* Say, variety *onusta* Say. College Station, April 12, 1903.

Family PTINIDÆ.

5356. *Amphicerus bicaudatus* Say. Corsicana, March 11, 1904.

Family SCARABÆIDÆ

5535. *Aphodius serval* Say. College Station, January 7, 1904. Smaller than compared examples, more deeply striate with confluent punctures,and with slightly different markings, regarding which Mr. Charles Liebeck has written: "about the usual size; markings variable."

5581. *Ochodæus biarmatus* Le Conte. Sabine, May 24, 1904.

5591. *Bolboceras lazarus* Fabricius. College Station, April 14, 1904.

5691. *Macrodactylus angustatus* Beauvois. College Station, March 30, 1904.

5692. *Macrodactylus uniformis* Horn. College Station, March 30, 1904.

5742. *Lachnosterna torta* Le Conte. College Station, July 8, 1904.

5894. *Allorhina nitida* Linnæus. College Station, July 23, 1904.

5901. *Euphoria kernii* Haldeman. Cedars, May 28, 1904.

5941. *Trichius viridulus* Fabricius. Wellborn, Brazos river, March 30, 1904.

Family CERAMBYCIDÆ.

5953. *Mallodon dasystomus* Say. College Station.

5955. *Mallodon serrulatus* Le Conte. Wellborn, Brazos River, June 24, 1904.

5962. *Prionus imbricornis* Linnæus. College Station, May 1, 1904.

6008. *Callidium antennatum* Newman. College Station, February 5, 1904.

6038. *Chion cinctus* Drury. Victoria, August 13, 1904.

6050. *Romaleum atomarium* Drury. College Station, June 10, 1904.

6115. *Callichroma plicatum* Le Conte. No data.

6127a. *Tragidion coquus* Linnæus, variety *fulvipenne* Say. College Station, February 18, 1903.

6196. *Neoclytus luscus* Fabricius. Wellborn, Brazos River, June 24, 1904.

6210. *Neoclytus erythrocephalus* Fabricius. Wellborn, Brazos River, August 12, 1904.

6471. *Alaxia crypta* Say. Manor, October 5, 1904.

Family CHRYSOMELIDÆ

6725. *Fidia viticida* Walsh. No data.

6800. *Chrysomela disrupta* Rogers. Courtney, October 7, 1902. Collection of L. H. Scholl.

6821. *Chrysomela auripennis* Say. College Station, December 12, 1903.

6978. *Haltica nana* Crotch. College Station, September 19, 1903. Verified by Charles Liebeck.

7032. *Mantura floridana* Crotch. College Statfon, May 1, 1903.

7051. *Chætocnema opacula* Le Conte. College Station, May 1, 1903.

7055. *Chætocnema confinis* Crotch. College Station, May 1, 1903.

Family TENEBRIONIDÆ.

Emmenastus convexus Le Conte. Coleman, August 23, 1902.

7201. *Epitragus acutus* Le Conte. Sabinal, May 24, 1904.

7359. *Eleodes seriata* Le Conte College Station.

7426. *Opatrinus aciculatus* Le Conte. College Station, December 20, 1903.

7438. *Blapstinus pratensis* Le Conte. Colorado, August 11, 1903. College Station, April 12, 1903, and February 27, 1904.

7573 *Helops farctus* Le Conte. College Station, June 10, 1904.

Family MORDELLIDÆ.

7780. *Mordella scutellaris* Fabricius. College Station, September 16, 1902.

Family ANTHICIDÆ.

7869. *Eurygenius wildii* Le Conte. No data.

Family MELOIDÆ.

8018. *Henous confertus* Say. College Station, May 28, 1903; Wellborn, Brazos River, June 24, 1904.

8083. *Epicauta sericans* Le Conte. Montgomery, August 24, 1903.

8123. *Pomphopœa texana* Le Conte. Thornberry, April 4, 1903.

Family ATTELABIDÆ.

8224. *Attelabus analis* Illiger. College Station, July 27, 1904.

Family OTIORHYNCHIDÆ.

8242. *Ophryastes vittatus* Say. Comanche, November 14, 1904.

8340. *Eudiagogus pulcher* Fahræus. Wellborn, Brazos river, August 27, 1904. College Station, January 30, 1903.

Family CURCULIONIDÆ.

8370. *Apion ovale* Smith. Rockdale, June 22, 1901.

8478. *Pachylobius picivorus* Germar. Hughes Springs, May 11, 1904; College Station, June 10, 1904; Dekalb, August 1, 1904. The last in prime condition, not rubbed nor smeared.

8546. *Desmoris constrictus* Say. College Station; Centre Point, June 1, 1904. Regarding this, Mr. A. F. Conradi has written: "This species occurs abundantly over the entire settled portions of the State of Texas, definitely known."

8615. *Magdalis barbita* Say. Howe, March 22, 1904.

10985. *Anthonomus grandis* Boheman. College Station, June 12, 1904.

8726. *Conotrachelus naso* Le Conte. College Station, October 20, 1904.

8741 *Rhyssematus palmacollis* Say. Frost, May 28, 1904. "Hillsboro, Malakoff, Victoria, and in fact it occurs all over the State," writes Mr. Conradi. Variety, with costæ, apical margin and spots on elytra rusty colored. Verified by Charles Liebeck.

8746. *Chalcodermus æneus* Boheman. Denison, June 27, 1904.

8760. *Acalles porosus* Le Conte. San Antonio, March 30, 1904; Martindale, April 14, 1902.

8902. *Aulobaris ibis* Le Conte. College Station, December 18, 1904.

Family BRENTHIDÆ

8967. *Eupsalis minuta* Drury. Wellborn, Brazos River, June 24, 1904.

Family ANTHRIBIDÆ.

9222. *Cratoparis lugubris* Olivier. College Station, January 4, 1904.

The species for which special mention should be given for their determination are as follows:

1068. *Discoderus impotens* Le Conte. College Station, May 1, 1904. Determined by Charles Liebeck.

3098. *Brachyacantha bollii* Crotch. College Station, June 4, 1903. Determined by Charles Liebeck as "large form." The yellow spaces of basal and median portions of elytra are solidly fused, without any indication of spots. College Station, May 10, 1905. C. E. Sanborn. Predaceous on plant lice.

4575. *Psiloptera drummondi* Laporte & Gory. College Station, June 20, 1902. Determined by Charles Liebeck.

10352. *Fidia cana* Horn. Dripping Springs, May 17, 1904. Determined by Charles Liebeck. Badly crushed and broken.

7179. *Conœcus ovipennis* Horn. Comanche, August 17, 1901. Determined by Charles Liebeck.

8326. *Achrastenus griseus* Horn. Lovelady, March 24, 1904; Grape Vine, no data; Sidney, April 4, 1904. Determined by Charles Liebeck.

—— *Balaninus victoriensis* Chittenden. Mead, Indian Territory. September 20, 1904; Lone Wolf, Oklohoma, September, 1904. Determined by F. H. Chittenden.

8990. *Sphenophorus cariosus* Olivier. Moody, March 25, 1904. Determined by F. H. Chittenden.

9006. *Sphenophorus compressirostris* Say. No data. Determined by F. H. Chittenden.

Summary: Species personally determined, 76
Species specially determined 9

Number of species reported 85

Editors of ENTOMOLOGICAL NEWS.

Dear Sirs:

As to your course in publishing the injurious letter of Dr. Jno. B. Smith, of New Jersey, in your Nov. issue, only recently noted, it would seem a safe policy for any publication first to make some inquiry as to whether there might not be an animus beneath and no basis for such serious statements, and even if found to be true, to be cautious in uttering a libel.

You ask me to be brief in writing and say you do not court controversial articles. I should have supposed the opposite to be the case, and rather that you would be glad to give one so traduced the largest opportunity.

The pretext for the attack is that Dr. Smith's name is given as one of the Advisory Board of Entomologists of the Am. Mosquito Extermination Society in your October reprint of a circular sent out generally by the Society in July last and before any declination had been received.

On February 19, 1904, we sent out a tentative circular —headed "Printer's Proof"—to the two Advisory Boards, saying to each person, including Dr. S., that he had been selected on such board, and closed thus: "We should be greatly pleased to have your written acceptance of the part appointed to you by the Executive Committe, but, knowing your interest in the work, we will take the liberty of assuming, in case we do not hear from you directly, that the appointment is accepted." Neither Dr. S. or any one else declined and many even wrote acceptances and all names thereafter permanently appeared. There was every evidence that he tacitly accepted (and it is to be hoped that no bare technicality covers his statement that his name appears without his permission), for instance, his taking part in the December, '05, Convention and making no objection to the appearance of his name on the letterheads and prints of the Society, many of which he received.

I had no knowledge of the bitterness which Dr. S. was nursing until April 7, '05, when he wrote me of this, among other things: "It may be well to advise my colleagues (on the Ent. Adv. Bd.) who have been working on similar lines

of what they have to expect from the Society, whose mouthpiece you seem to be, that they may be on their guard." And on the 14th of April he wrote on this subject to the Executive Committee of the Society: "So far as the list is concerned, my own name appears without authority, and I am advised by others of my colleagues that they are in the same position." (I should be glad to know of anyone not receiving the printed circular letter of February, '04, for I find that every name is checked as having been notified of their selection.)

Dr. Smith said nothing of wanting his name omitted until a similar tentative circular for the next year was sent out on August 26th last, which he acknowledges, and says: "I very much prefer that you drop my name entirely from all connection with the A. M. E. Society," which was then done. His lonely position is referred to, but not by name, in Bulletin No. 2, sent you, dated September 26, '05 (which we trust you will not be deterred from reprinting, at least in part), where the paragraph begins: "The character and reputation of the gentlemen who have consented to serve on the Executive Council and the Advisory Boards of the Society, reflect the confidence of the community in our work," and which gives the distinguished names of many who unnecessarily had written of their pleasure and honor in the case.

I may say that a number of our officials, in answer to his abusive letter of April 14, '05, had written Dr. S. that he must be laboring under a misapprehension and tried to calm him down, but, apparently, fruitlessly, for his recent letter to you says: "Such use of my name was without my permission and in spite of a very decided protest." Please note the dates —that he declines on August 30th for the first on receipt of a new nomination and now protests, because his name appears in a July circular, saying he had tried to get his name off the list, as though we coveted the doubtful honor of keeping it on against his will. So much for that insinuation!

But now, not for the pretext, but for the real though strange point of his grievance, of which I first learned early in March, 1905, when a mutual friend sent me a press clipping with a severe comment. It gave a news item from

Washington to the effect that Dr. S. had advised his representative in Congress that the Bill (which the Society had caused to be introduced. W.) was an unworthy one, that the Society was composed of only a few persons and that Mr. Weeks was simply working for a job. Dr. S. had doubtless seen in the papers that the Secretary's Representative and the Secretary had spoken in its favor before the Committee on Interstate and Foreign Commerce. The fact that the subject was before that committee showed the character of the bill, which was that the President appoint a commission to act with one from New York and New Jersey, if such be appointed, to consider the questions of the economic relief of the conditions existing in the great marshes bordering on New York and those of Long Island. The bill was modelled after a similar one which failed through being introduced late in the previous sessions at Washington and Albany. When the question came up at a large meeting of the Executive Council of the Society in January, '05, as to whether the bill should be re-introduced, the treasurer, Mr. Frederick C. Beach, editor and large owner of the Scientific American, amended so that the bill should be also introduced in New Jersey, and later agreed to its introduction, as he knew a member, and was furnished with a copy of the New York bill of 1904 for a guide. The Trenton bill mentioned certain officials for its commission, and left six unnamed, so that (to answer Dr. S.) if the Governor thought he was a suitable person for such a commission he could have appointed him.

But the bill was not one for entomologists to consider but mainly for engineers. It related to broad commercial and economic questions, which only persons skilled in such could intelligently consider. It seems rather strange for an entomologist to court a place on such a commission, when mosquitoes were only incidently involved. And, yet, because he was not directly informed and specifically named, though he knew in various ways of such action being proposed (for it was mentioned in Bulletin 1, of November, '04, and in press items sent to him), he worked himself into a rage, dangerous to himself and everybody else, and tries, by abusive letters to

the members, to discredit the secretary and break up the Society for the temerity of its secretary who followed the direction of its executive authority.

In the letter to me of April 7, '05, before referred to, Dr. S. writes of the Trenton bill being introduced at my request. He also inquires in the letter to members of our Ex. Com. (April 14, '05), whether the introduction of the bill was really an action of the Ex. Com., and whether "it is the policy of the society to ignore and condemn as unworthy of consideration all work not done under its seal." He goes on at great length and with an evident feeling of personal consequence, with which his letter to you is also saturated: "It is a matter of importance to me to know whether this society acts through a responsible committee or through an irresponsible secretary who assumes the right of speaking for it." In this letter to the committee he enclosed a copy of the one to me of April 7, wherein he recites his claims to recognition, as well as of others, and says: "You were careful to keep from all these parties all knowledge of this measure and to carefully exclude them from the commission proposed in your bill. You placed the treasurer of your society, for which you purported to act, in the light of an ignoramus by crediting him with preparing the bill." The fact was, I had not mentioned a single official to be appointed on the New Jersey commission.

Mr. Beach immediately wrote Dr. S. that it was he who, at a large meeting of the Executive Committee, moved the introduction of the N. J. bill, that he assumed all responsibility for the bill, completely taking all blame, if any. And yet, Dr. S. in the NEWS, repeats the same charges against me as to the bill and "sneak" legislation. I wish I could give full copies of these strange letters of Dr. S. They are filled with the most high-tempered words.

A number, besides Mr. Beach, wrote Dr. S. a "soft answer" to his "personal letter to every member of the Executive Committee," but it failed to turn away his wrath. It was predicted that "if he is of normal constitution he certainly will, on reflection, be mortified at the position in which

he has placed himself." But, not at all, he repeats the same things to you, though corrected by Mr Beach, and assured of his error by a number who replied and was even still "warmly invited to co-operate with us, as our aims are one."

On May 30th I wrote him also a courteous note, referring to his attacks and threats, which was delayed by serious illness from gratuitous over-work in the Society, saying: "I would be much obliged if you will inform the Society to what you refer in letter of April 7th, 'So far the Am. Mos. Ex. Soc. has appeared to be a hindrance instead of an aid to the rational methods of dealing with the mosquito question in New Jersey.' If we cannot aid, we certainly do not wish to hinder." But no answer came.

Is there any cause for these injurious acts? None whatever that I am aware of. I have had no difficulty with Dr. Smith. On the other hand, I have always, individually and as secretary, treated him with due respect. In the arrangement of the programs of our conventions he has always been accorded an important part, and though at these times he has taken occasion in his addresses to cavil at something in the arrangement, it has been passed unnoticed.

I have given the representativess of Dr. Smith time and courteous attention when he has sent them to look over my work in the field and returned messages with them that at any time I should be glad to give him any benefit of my experience for his work.

On social occasions he has received all due courtesy and attention.

And yet I have never met Dr. S. intimately, and never personally but three or four times. So I can only judge him by insight. I have had many letters from him, and I must refer to the very first one—of some years ago—for the impression made on my mind then was that any one, speaking as he did therein of his confreres, enjoyed controversy, and surely was one to be careful of. This feeling was strengthened later when he wrote to me disparagingly of those persons in his own State who sought advice on the mosquito propositions from different experts, for he had learned that some owners had presumed to call me into N. J. to investigate and report.

It was through no fault of mine that this condition of things existed and these calls came, and that since then and even now for some weeks I have been making mosquito surveys in that State notwithstanding the great activity of Dr. S. in the cause. In every case these calls have been the result of my previous work elsewhere, and for this I should not suffer. I have not sought to invade another's territory, if one could make the singular claim of exclusive territory.

This leads me to say that I can only think, and others who know Dr. S. much better confirm the idea, that it is because of the results of my work and because many times I have gone into N. J. to speak and work, that he holds these bitter feelings—the promptings of a strange jealousy. It would seem that the common enemy was numerous enough to engage all the attention of all the fighters and that they should not be compelled to fight at law or otherwise to defend themselves.

I will ask that the covert advertisements of himself which Dr. S. injects in his letter, be noticed in view of his saying the Society "is simply an attempt to advertise its secretary," thus implying incompetency against those in the society—some of the most astute men in the country. May I assure your readers of the fact that though I have given some of the best years of my life to the society and cause and broken my health largely through these efforts, I have never received a single fee as the result of my relation to the society or any compensation for my incessant labors in it. The little puff introduced of a close figure of an estimate and a contract is easily explained by the fact that Dr. S. has frequently written of the cost of ditching and a contract based on that might be high or low.

Dr. Smith knows of the explanation of the use of Gov. Murphy's name as chairman of the first convention, for it is stated in the published report of the convention, and yet he speaks of the Governor's emphatic refusal to act as presiding officer. That little insight indicates that Dr. S. saw the governor or his secretary and knew of some emphatic refusal which never reached me. Was there any reason?

Some strong statements in the letter to you as to the pro-

gress of certain mosquito extermination work compels me to say that I greatly fear there is going to be sad disappointments and that the cause is going to be greatly retarded by a heavy failure in promised results. All mosquito work demands the most radical methods and anything less should not be recommended by anyone who appreciated the necessities of the case, unless he was blinded by an overruling confidence in his abilities and knowledge.

Personally, I would prefer to await results and then let others do the puffing and not myself. I should prefer to be less dogmatic, less opinionated and very careful not to draw positive generalizations on insufficient data, especially in investigations as new as those of mosquito habits and destruction.

A few years will be sufficient to determine whether a radical or a superficial course of treatment is the better.

But to close what has been made lengthy by the number of insinuations, taking but a word or two to express, possibly it would have been safer if attention had been paid to the injurious words of Dr. S. in the first instance, for usually a person of the mind he seems to have is only encouraged by the weakness of his victims.—HENRY CLAY WEEKS, Bayside, L. I., New York.

Harrisimemna trisignata Walk.

BY RICHARD F. PEARSALL.

In the October number of ENT. NEWS a brief note by Mr. Franklin Sherman, Jr., upon the pupation of the species, closes with these queries, viz :—

1. If this habit (as given in his text) has been noted before.
2. What the normal pupating habit of the species is.
3. Whether such habit is known in any other Lepidopterous insect.

On July 8, 1897, in the Catskill Mountains I took two of these larvæ feeding upon the leaves of the Bush Honey-suckle (*Diervilla trifida*). They were nearly full grown and when captured were greatly disturbed, holding with the hind legs to the twigs and elevating the body, at the same time shaking in a tremulous fashion, as if seized with a chill, quite geome-

triform in appearance. Not knowing their habits I placed a quantity of trash in the glass jars and one of them commenced gnawing at the small pieces of wood. Seeing this I supplied a larger piece of dead limb, perhaps an inch in diameter, into which my larva made its burrow, sealing it up, exactly as described by Mr. Sherman. The moth came out the following year. This then may be accepted as its normal habit.

Now as to the third query; and here I record one of the greatest disappointments I ever experienced in the rearing of larvæ.

In the same year while examining a group of Choke Cherry (*Cerasis virginiana*), second year's growth, I saw on the top of a leaf what I first took to be a mass of bird droppings, but on closer observation it turned out to be a shining, slimy-looking, gray and white larva, about half an inch long coiled up at rest. I put it in a glass jar with food plant and at first it fed only at night. As it grew larger it fed freely during the day, and at its final moult, changed to the most beautiful larva I have seen. It was then about one and one-quarter inches long, of a deep prussian blue, its skin smooth, like silk, marked on the dorsum from the third to the ninth segment, with a series of large oval cream yellow spots, placed crosswise like saddles, one on each segment. From each end of these projected at an angle of forty-five degrees, a narrow spatula-shaped ribbon like appendage of the same cream yellow color. I had never seen such a creature and I tended it carefully. One day I was changing its food and while doing so the dinner bell rang and I left it forgetting in my haste to place the glass cover on the jar. When I returned from my meal, imagine my horror at finding my jar uncovered with the window near it open and my specimen gone. On the floor beneath my table on which the jar stood, I had, some days before, placed two or three pieces of old fence rail, and as I glanced about in my search for it there was my larva calmly boring into one of them. I did not disturb it but watched all afternoon as it cut out rounded pellets and threw them aside, burying itself from sight by night fall and by next morning it had sealed the opening so neatly as to be hardly distinguished from the gray color

of the old wood. Surely after such a piece of good fortune it would disclose the imago, and tell me what it was. For three years I kept that chunk of wood on my hatching box, after carefully carrying it home so as to prevent jaring, and no moth emerged. Finally I split it open, and after this lapse of time the pupa seemed plump and clean. Its shell was granular and tough, reddish in color, much like the pupa of an *Alypia octomaculata*, I kept it a while longer but it never disclosed the imago.

What was it? Can anyone tell me? I have searched the same region and locality every summer since but have never taken it again.

The larva of *Apatela lithospila* also has the same habit of pupation.

On Certain Tropical Ants Introduced Into the United States.

By William Morton Wheeler.

In a collection of Formicidæ belonging to the Philadelphia Academy of Natural Sciences and sent me for identification by Dr. Henry Skinner, I find a number of specimens of *Monomorium destructor*. This ant, originally described from India by Jerdon,* though introduced into the tropics of the New World, has not been recorded heretofore from the United States. The specimens are labeled "Black Warrior River, Tuscaloosa County, Alabama," and "Seminole Point, Monroe County, Florida," collected by Mr. Clarence B. Moore. As these localities are widely separated, one being at the tip of the peninsula of Florida, the other in the northwestern portion of Alabama, we may infer that the species has either been recently introduced at different points or is already widely distributed in the eastern Gulf States. That it is of comparatively recent importation from the tropics there can be little doubt.

In his original description of *Atta destructor*, Jerdon gives the following brief account of the habits of the diminutive workers: "They live in holes in the ground or in walls, etc.,

* Madras Journ. of Litt. and Sc. xvii, 1851, p. 105, abstracted in Ann. Mag. Nat. Hist. (2), xiii, 1854, p. 47.

and are very numerous in individuals. They prefer animal to vegetable substances, destroying dead insects, bird skins, etc., but also feed greedily on sugar. They are very common in all parts of India, and often prove very troublesome and destructive to the naturalist." The bad reputation of this ant is expressed in two other names which have been given it by Frederic Smith and Gerstæcker, on the supposition that it had not been previously described; the former calling it *Myrmica vastator*, the latter *Myrmica ominosa*. The insect is repeatedly met with in the literature under these and other names like *Monomorium atomaria* and *M. basale*.

There are now three imported species of *Monomorium* in the United States, all of which have probably been carried by ships from their original home in southeastern Asia, namely: *M. pharaonis*, *M. floricola* and *M. destructor*. The first is a widely distributed house-ant, not only in the tropics, but also in temperate Europe and America; the second is tropicopolitan, though it manages to subsist in our northern green-houses; the last, as I have just shown, has begun to spread into temperate North America. In a recent paper* I recorded the introduction of a fourth *Monomorium* (*M. salomonis* Linn), a well-known North African species, into the Bahamas.

Another small tropical ant which has recently gained a foothold in the United States is *Iridomyrmex humilis* Mayr. This species has been taken in numbers in New Orleans by Mr. E. S. G. Titus. As a native of the New World, it was supposed to be confined to South America (Brazil and Argentina). It is not included among the known Mexican or Central American ants, nor can I find any record of its occurrence in the West Indies.

According to Stoll† this ant has also been imported into Madeira where it has become a pest in houses and has supplanted another previously introduced ant (*Pheidole megacephala Fabr.*) which was *the* house-ant of Madeira in the days of Heer.‡ Some idea of the numbers of *Ph. megacephala* in Madeira in the middle of the last century may be gained from

* The Ants of the Bahamas. Bull. Am. Mus. Nat. Hist. xxi, 1905, p. 89.
† Zur Kenntniss der geographischen Verbreitung der Ameisen. Mitt. d. schweiz. entom. Gesell. x, 3. 1898, pp. 120-126.
‡ Ueber die Hausameise Madeiras. An die Züricher Jugend auf das Jahr 1852 v. d. naturforsch. Gesell. 54 Stuck, 1852, pp. 1-24 Taf.

the following extract from Heer's work: "It occurs throughout the southern portion of the island of Madeira up to an elevation of 1,000 feet in prodigious numbers, especially in hot, sunny places, where it is to be found under eight out of every ten stones that may be overturned. In the city of Funchal there is probably not a single house that is not infested with millions of these insects. They climb to the top stories, issue in swarms from the cracks in walls and floors and keep traversing the rooms in all directions in regular files. They creep up the legs of the tables, along their edges and into the cupboards, chests, etc. On account of their extremely diminutive size they are able to enter the smallest holes and crevices. Even when thousands and thousands of them are killed, there is no reduction in their numbers, as fresh armies are continually arriving." The recent displacement of this pest by another, *Iridomyrmex humilis*, bears a close and interesting analogy to the well-known displacement in Europe and America of the black house-rat (*Mus rattus*) by the brown species (*M. decumanus*). In a similar manner, according to Stoll, another ant, *Plagiolepis longipes* Jerdon, introduced into the island of Reunion from its original home in Cochin China, has driven out some of the primitive autochthonous species. We may also look forward to the appearance of this same ant within the warmer portions of the United States, since it has already been recorded by Pergande from Todos Santos in Lower California.*

Still another foreign ant which has acquired a footing in tropical Florida and probably also in other localities in the Gulf States, is *Prenolepis longicornis* Latreille. It has also become a common species in the green houses of temperate Europe and America. In some of these, as in the Jardin des Plantes in Paris, it has been a permanent resident for more than forty years. It may sometimes be found even on the top floors of the great apartment buildings in New York City. Wasman† has just given good reasons for believing that the

* Formicidae of Lower California, Mexico. Proc. Cala. Acad. Sc. (2) iv, 1894, p. 163.
† Zur Lebensweise einiger in- und ausländischen Ameisengäste 3. Wanderungen von Coluocera maderæ Woll. (oculata Bel.) mit Prenolepis longicornis Latr. Zeitschr. f. wiss. Insect.-biol. Bd. I, Heft 9. Sept. 17, 1905, pp. 384-390.

original home of this ant is India and that it has been carried to all parts of the tropics in ships. He shows that it has been accompanied in these wanderings by two myrmecophiles, a Lathridiid beetle (*Coluocera maderæ*) and a small cricket (*Myrmecophila acervorum* var. *flavocincta.*)

Notes on Collecting in Mexico.

By J. F. McClendon, University of Pa., Philadelphia.

In the summer of 1902, while seeking the cool plateau of Mexico as a quiet retreat to pursue my studies, I found near Guadalajara, Jalisco, some Neuropterous insects that were new to me, and the next summer planned a trip to Jalisco to collect insects and some other zoological specimens. Many of the specimens I took have been used in preparation of the Biologia Centrali-Americana, and at the request of Dr. P. P. Calvert I give the following account of my trip:

On June 12, 1903, I crossed the border at Eagle Pass and reached Guadalajara by the Mexican International & Central Railways. Most of the suburbs of this city are covered by crops of corn and tobacco, but the ravine of the Santiago forms an admirable collecting ground for an entomologist, and here and in some deserted parks I spent most of my time. The altitude and the frequent rains of this season made the air very cool and most of the insects caught were nearctic, save at the bottom of the ravine, where, amid oranges, bananas and other tropical plants, are found many forms that have strayed from the hot shores of the Pacific. The further down the river I went, the more tropical forms were met with, but as the natives were not inclined to be civil, I did not go further than the Barranca de San Juan. One hideous night at that *hacienda* discouraged my scientific zeal, and I preferred to lose a few hours on mule back each day rather than repeat such an experience. I went up in the mountains as far as Zapotlanejo, about 20 miles east of Guadalajara on horseback, and succeeded in returning with some specimens. Although I did not

have to sleep in the *portal*, as at San Juan the best "room" I could get had no window.

In September I spent a week at Tuxpan, near the construction camp of that branch of the Mexican Central Railway and about 30 miles from the volcano of Colima. That was a lonely place, but the volcano, looking down on all the country round and expressing its varying moods in wreaths of white steam or black smoke or casting a red glow on the clouds at night, was a companion to me. Although much nearer the sea level, Tuxpan is cool in summer and has many nearctic besides tropical forms of insects. The leaf-cutter ant cuts roads through the grass and the Kelep ant swarms up the stems of shrubs in the same field. At this time I did not know that this large ant was the one introduced against the boll weevil, although I looked for the latter in vain. The natives of Tuxpan have some strange ceremonies developed from Indian dances and ideas gotten from Spanish missionaries, and the place is of interest to a tourist. Returning to Guadalajara I remained until the latter part of September, when I left the Republic.

A New Fossil Ant.

By T. D. A. Cockerell.

Florissant, not far from Pike's Peak, in Colorado, has long been known as a wonderful locality for fossil plants and insects. It is, in fact, a sort of Tertiary Pompeii where the fauna and flora of an ancient period are almost perfectly preserved in fine mud and sand, ejected by the volcanoes which at that time were in full operation in the Rocky Mountain region. During the present year, collections have been made at Florissant by Judge J. Henderson and Dr. F. Ramaley, of the University of Colorado, and while most of the specimens are plants, there are a few insects. In the first railroad cutting east of Florissant was obtained an excellently preserved spider, *Clubiona arcana* Scudder, ♂; at a different place, the northwest corner of "Fossil Stump Hill," an ant was found belonging to an undescribed species.

Ponera hendersoni n. sp.

♀. Length about 11 mm.; black; anterior wing about 8 mm.; head rather small, length slightly over 2 mm.; width of abdomen a little over 2 mm. Nervures strong and dark; the venation is in general similar to that of *P. coarctata* Latr., (cf. Wheeler, Biol. Bull., 1900, p. 47), but differs as follows: Stigma longer and narrower, its lower edge nearly straight; marginal cell longer, but not approaching so near the apex of the wing, the latter being also more produced; costal cell broader in the middle, and giving off the basal nervure further from the stigma; first submarginal cell long, though not as long as the marginal; the first submarginal extends further basad than in *P. coarctata*, but not so far apicad, as the radial nervure is given off about the middle of the stigma, instead of beyond its middle as in *P. coarctata*; first discoidal cell longer, being much longer than high, with the first recurrent nervure more oblique; second submarginal cell about as in *P. coarctata*. Femora rather broad. The abdomen and other parts seem to present no distinctive features, except tbat the ocelli are smaller and closer together than in *P. coarctata*.

Named after the collector, who is a well-known student of Colorado palæontology. Type in the University of Colorado Museum; it is intended to publish a figure later in connection with a general account of the Florissant collections.

Children, if you meet a cricket,
Please remember not to kick it;
Not a youth whose nature's sweet'll
Strike a ladybug or beetle.

If a daddy longlegs passes,
Do not slay it (as alas! is
Often done by wicked urchins,
Who deserve the soundest birchin's).

When a gnat—that lively hummer,
Which you'll hear when it is summer,
Comes a-buzzing round your hat, it
Is wrong to throw a pebble at it.

Do not think me sentimental
When I ask you to be gentle
With the insect population
Of our free and glorious nation.

If you're kind in this partic'lar,
They will buzz in your auric'lar;
Every child, of course, can see
What a pleasure that will be.—London Globe.

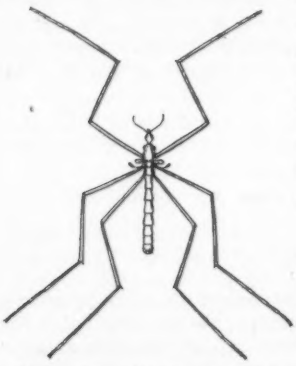
ENTOMOLOGICAL NEWS.

[The Conductors of ENTOMOLOGICAL NEWS solicit and will thankfully receive items of news likely to interest its readers from any source. The author's name will be given in each case, for the information of cataloguers and bibliographers.]

To Contributors.—All contributions will be considered and passed upon at our earliest convenience, and, as far as may be, will be published according to date of reception. ENTOMOLOGICAL NEWS has reached a circulation, both in numbers and circumference, as to make it necessary to put "copy" into the hands of the printer, for each number, three weeks before date of issue. This should be remembered in sending special or important matter for a certain issue. Twenty-five "extras," without change in form, will be given free, when they are wanted; and this should be so stated on the MS., along with the number desired. The receipt of all papers will be acknowledged.—ED.

PHILADELPHIA, PA., JANUARY, 1906.

It will be remembered that we decided to place on the cover of each volume of the NEWS the most interesting, curious or wonderful insect described from North America in the preceding year. We asked for suggestions from our subscribers as to the selection of the insect, but never received any, so if our selection is poor they can have no legitimate complaint. Our first effort resulted in a beetle being selected (*Ignotus ænigmaticus* Slosson), the second was a bee, and now we present a dipteron. This curious species was described by Mr. D. W. Coquillett in the Canadian Entomologist, p. 347, 1905. Specimens were collected by Prof. Cockerell on the summit of Las Vegas Mountains, New Mexico, and by Mr. Henry L. Viereck on top of the main range of the Rocky Mountains, near Beulah, New Mexico. These are probably identical localities. The specimens collected by Mr. Viereck are in the collection of the Academy of Natural Sciences of Philadelphia. In the future we hope to have aid from our subscribers in the selection of each year's insect.



Limnophila aspidoptera Coquillett.

Notes and News.

ENTOMOLOGICAL GLEANINGS FROM ALL QUARTERS OF THE GLOBE.

NOMENCLATURE OF CERTAIN NORTH AMERICAN ODONATA.—Recent work on the "Biologia Centrali-Americana" has directed my attention to questions of nomenclature of some familiar North American species as follows:

1. Hagen, in his Synopsis of 1861, gave, as one of the species of *Libellula*, *L. luctuosa* Burm., and placed *L. basalis* Say as a synonym thereof. In his Synopsis of 1875, he gave *basalis* Say as the name of the species and placed *luctuosa* Burm. as the synonym, and American authors since have followed his later example. Hagen's reversal was apparently due to a change in his ideas as to the relative priority of Burmeister's and Say's names, both of which were published in 1839. On this question I have no fuller information than that given by Hagen in Psyche, v, p. 369, but the correct name of this species now appears to be ascertainable on other grounds. Mr. Kirby, in his catalogue of 1890, p. 29, uses *luctuosa* as the name of the species and *basalis* as the synonym. He does not indicate his reason for so doing, as he has done on the same page in the case of *axilena* vs. *lydia*. A study of this Catalogue, however, led me to the following data: Newman, in 1833, described *Sympetrum basalis* (now regarded as a synonym of *S. sanguineum* Müller, 1764). Stephens, in 1835, redescribed Newman's species as *Libellula basalis*; consequently both Say's *Libellula basalis* of 1839, and *Libellula basalis* Burm., 1839, a name for a still different species, are homonyms and must be rejected. The proper names and the synonymy of the last two species would therefore be—

Libellula luctuosa Burm., 1839.
Libellula basalis Say, 1839.
Libellula odiosa Hagen, 1861.
Belonia luctuosa et *odiosa* Kirby, 1890.

Tramea incerta (Ramb., 1842).
Libellula basalis Burm., 1839.
Tramea basalis Kirby, 1890.

2. Hagen, in his Synopsis of 1861, established the genera *Erythemis* (p. 168), under which stand as species: 1. *furcata Hag.*, 2 *bicolor* Erich., 3. *longipes* Hag, and *Mesothemis* (p. 170) including 1. *simplicicollis* Say, 2. *collocata* Hag., 3. *corrupta* Hag., 4. *illota* Hag., 5. *attala* Selys, 6. *mithra* Selys, 7. *longipennis* Burm. He did not specify a type-species for either genus. This was first done by Mr. Kirby, in his Revision of the Libellulinæ of 1889, in which he named *bicolor* as the type of *Erythemis*, and *simplicicollis* as that of *Mesothemis*. *Bicolor* is a synonym of *peruviana* Ramb., and between this species and *simplicicollis* I can find no differences of generic value. Both *peruviana*

(*bicolor*) and *simplicicollis* must be placed in the same genus, and as *Erythemis* precedes *Mesothemis* in Hagen's work, *Erythemis* must be the name of that genus. Consequently a very familiar dragonfly of the United States must be styled *Erythemis simplicicollis* (Say).

A different conclusion will be drawn by those who take the first species enumerated under a new generic name as the type thereof. *Furcata* Hagen is generically different from *bicolor* Erichs. and is a *Cannacria* Kirby. To the "first species = type" school, *simplicicollis* will remain a *Mesothemis*, and *Cannacria* will disappear as a synonym of *Erythemis*. Present rules, however, would appear to favor the preceding view, which is that which has been adopted for the 'Biologia.'

3. I merely mention that in the 'Biologia' return has been made to the original spelling *Æshna*, instead of the later *Æschna*.

PHILIP P. CALVERT.

CORRECTION TO THE LIST OF NEW ENGLAND ODONATA.—In the recently (October, 1905) published list of New England Odonata (Occasional Papers, Boston Soc. Nat. Hist., vii, Fauna of New England .6. List of the Odonata), I included *Argia apicalis* (Say) on the authority of the late Prof. Harvey. Prof. Harvey's record was published in the NEWS, ii, p. 51. Mr. E. B. Williamson, who recently acquired part of Prof. Harvey's collection, writes me as follows: "I see *Arg. apicalis* is recorded from New England on Harvey's collecting. You will notice in Harvey's record in ENT. NEWS that this specimen was taken same date and place as *putrida*. A few days ago I started to list the Harvey collection . . . and I find a ♀ *Argia* labelled by him *apicalis*, date as recorded in ENT. NEWS, associated in box with 2♀♀, unlabelled. All three are very adult specimens of *putrida*. As you have probably noticed, the very adult ♀♀ of *putrida* become pearly-blue like *apicalis* and not a dense, dingy-white pruinose like old males." *Apicalis* is consequently to be stricken from the list, until, as is likely, it be found in New England.—PHILIP P. CALVERT.

RARE OHIO LEPIDOPTERA.—I send a few records of rare captures which may be of interest. On July 2nd, 1905, I took a fresh specimen of *Calephelis borealis*, and on October 3rd a torn specimen of *Catopsilia eubule*, both new to this locality. While bush-beating for larvæ on linden I got a larva, which hatched out on August 3rd a fine ♂ of *Thecla m-album*. Only once before has this been taken here. I saw in the NEWS that *Eros aurora* had been taken in numbers in the East. On September 17th, around two rotten stumps, I took twenty-five fresh specimens, and might have taken more if it had not set in to rain. I took several more later. Previous to this I only had one specimen. I have been especially interested in the Bombycidæ and Geometridæ, and the past season reared quite a number of the larvæ of those species.—G. R. PILATE, 321 Forest Avenue, Dayton, Ohio.

OUR criticism of the hasty publication of entomological facts has brought us a letter from Mr. Sherman and a note in print from Miss Soule. Both make the excuse that literature is difficult of access. It is a maxim that ignorance of the law excuses no one. Ignorance of previous work should result, not in hasty publication, but in consultation of someone better posted, or in discreet silence. The officers of the U. S. National Museum will always reply to questioners seeking information of this nature. We would reply to Miss Soule that we have no objection to "popular" articles that are frankly such and give proper credit to antecedent work.

We have criticised authors for hasty and uncritical work; but there is another aspect of the case. What is the condition of editorial responsibility in a journal that accepts these articles without question?—HARRISON G. DYAR.

GUELPH, CANADA, Dec. 9, 1905.

EDITOR NEWS:—

I must confess to a feeling of relief upon seeing Dr. Dyar taken to task in the last issue of the NEWS by both Dr. Skinner and Miss Soule, for it shows that I am not alone in my dislike for unnecessary and caustic rebukes. The brief article which I recently contributed to the NEWS on the pupating habit of *Harrisimemna trisignata* was not specially intended for use as a leading article, but even if it did so appear it does not seem to me that it need bring out any severe rebuke. Two other entomologists kindly wrote me immediately after the appearance of the article giving me the information I needed, and which I asked for, while Dr. Dyar published a brief and caustic rebuke a month later, so that it was of no help to me whatever. I do not see the use of one being so anxious to critizise every imaginary or real mistake. I wrote Dr. Dyar a personal letter containing much the same sentiments expressed in Miss Soule's note, and had no intention of taking this matter into print and only do so now lest my reticence in the matter should be misunderstood. If anyone will read my article in the NEWS for October, I think he will agree that Dr. Dyar's remarks in the issue for November are needlessly harsh, if not altogether uncalled for.—FRANKLIN SHERMAN, JR.

WE can't refrain from noticing Dr. Dyar's criticism as it is so manifestly unjust. We were not previously aware that the law and entomology were on a par, but, as Dr. Dyar says they are, that is the end of it. If writers for the NEWS wish to submit their articles to the officers of the U. S. National Museum we offer no objection. That the *polyphemus* moth has stemmed and stemless cocoons has been known to the Editor of the NEWS for at least thirty years, and, moreover, he published the fact six years before the citation given by Dr. Dyar. He is also aware that the same thing was published in 1797, and by later writers, including Dr. Riley, in the Missouri Reports. The writer wrote to Miss Soule stating he had found many such cocoons, but as he was interested in her studies of the matter and thought other NEWS readers would

be also, he put the article in the NEWS. Miss Soule has a love for natural history and her endeavor to find out the distribution of the stemmed and stemless cocoon is most praiseworthy. She gives her experience with cocoons in Eastern New York, Massachusetts, New Hampshire and Vermont, and the pith of the whole matter is in the concluding paragraph on page 175 of vol. xvi. We are not greatly troubled by Dr. Dyar's remarks on "The condition of editorial responsibility," as the success of the NEWS shows. We publish in the NEWS what we think of interest to its readers, and the assumption that everything is new and that if it is not it is due to ignorance of the facts on the part of the editors is preposterous. We don't live on ice water. We were also aware that the life history of *Harrisimemna trisignata* had been studied by a number of entomologists, but as the article on that subject interested our readers and brought valuable comment we are also satisfied on that score. Our space is too valuable and limited to publish a bibliography with each article.—H. S.

T. Polyphemus COCOONS.—In answer to my question about the forms of *polyphemus* cocoons, I have had many interesting letters whose reports I give briefly.

From Massachussetts, Rhode Island, Connecticut and Vermont "no stems" were reported; "never heard of one with a stem" being added more than once.

Delaware, New York, and Pennsylvania report both forms, sometimes one given as predominating, sometimes the other.

One collector in New Jersey gives figures: out of 20,000 cocoons but 200 had stems.

Missouri has both forms according to two collectors; all stems, according to one, all stems except one specimen, according to another.

Indiana—all stems except one specimen.

Ohio—all stems, "even when spun in a cage," one student writes.

From Canada a small percentage of stems is reported, and this form is thought, by two persons, to be made by diseased or parasitized larvæ in Canada.

Cocoons with stems, sent me from the West, gave superb moths, but two similar ones gave parasites, indicating that these have no connection with the form of cocoon.

Of course, these reports are not enough to justify any theory, and the reports from any state might be balanced by the experience of collectors who have not sent any information, so there is nothing final reached.

One interesting fact was given. A collector wrote that the form with stems was always found on maples on the streets of towns, while the stemless form was found in the woods, either on the ground or spun against the trunk or branch of a tree. The same difference was noted by two other persons, one of whom suggested that the suspension might be because in the streets the leaves on the ground were cleared away in the autumn.—CAROLINE GRAY SOULE.

STRATEGUS INJURING DATE-PALMS.—Professor R. H. Forbes recently sent me a fine male *Strategus julianus*, which he reported as eating roots of date palms in Arizona. I am indebted to Mr. Fall for assistance in determining the species. In Alabama, *S. antæus* has been reported to injure peach roots (*cf.* Bull. 22, Div. Ent., Dep. Agr., p. 105. —T. D. A. COCKERELL.

THE DISTRIBUTION OF HELICONIUS CHARITONIUS LINNÆUS IN THE UNITED STATES.—That this distinctly tropical butterfly has a wider range within the United States than has heretofore been assigned to it by authors has come to the knowledge of the writer. One of his valued correspondents, residing in Waco, Texas, informs him in a recent letter that he has captured three specimens of the insect at the latter place, and he is further informed by one of his assistants, who was long resident in Kansas, that he himself has seen several specimens in the possession of local collectors in Kansas, which were taken in the southern part of that State. That these specimens taken in Kansas are individuals which strayed northward is no doubt true, but that the insect occurs in considerable numbers as far north as central Texas is proved by recent observations. If occurring as far north as Kansas, it may also well occur, and undoubtedly does occur, in Louisiana, and possibly also as a straggler in Arkansas.--W. J. HOLLAND.

INSECT GALLS.—There has just come to hand a very useful and nicely-illustrated paper on the "Insect galls of Indiana," written by Dr. M. T. Cook (who is now in Cuba), and published by the Department of Geology and Natural Resources of Indiana. It is much to be hoped that this paper will stimulate interest in this rather neglected subject, which in Europe has such a large following that a journal is published, devoted exclusively to it. While we must confess that galls have received only a small fraction of the attention they deserve in this country, we must protest against the idea prevalent in some quarters that nothing has been done. On two different occasions, Dr. Bessey referred (in *Science*) to Dr. Cook's papers as if they constituted practically the first literature on galls in America. Even Dr. Cook himself, although he announces that he is working on a monograph of the insect-galls of North America, states that Coccid galls have only been reported from Australia, whereas they are known from the United States, Ceylon, South Africa, etc.

I notice that Dr. Cook retains the name *Pemphigus vagabundus* Walsh, for the gall on cottonwood usually known by this name. Oestlund (Aphididæ of Minnesota, 1887, p. 22) showed that this was not the true *vagabundus* of Walsh, but did not propose a new name. I propose that the *P. vagabundus* of Oestlund, described in the place cited, be known as *Pemphigus œstlundi*. It is found as far west as Colorado. Walsh's species is probably unrecognizable.—T. D. A. COCKERELL.

A FEATHERED worm has made its appearance in different parts of the State of North Carolina, and a number of people have been made very ill by its bite.

The insect is not unlike a white earth worm, but has a covering of brown down, similar to that of a young bird. Its bite is so poisonous that in a few seconds after receiving the wound the victim swells enormously and displays symptoms not unlike those of a snake bite.

The worm feeds on maple trees and rose bushes. Its presence on the latter accounts for the number of women victims. No one is able to classify the insect. Several specimens are being prepared for shipment to Washington for examination to establish its identity.—*New York Times.*

Doings of Societies.

The October meeting of the Newark Entomological Society was held on the 8th, with President Keller in the chair and 24 members present.

Messrs. J. Schmich, M. Schulze and B. Porter were proposed and elected to membership.

The following captures were reported:

Arctia rectilinea, by Mr. Wormsbacher.

Melanomma auricinctaria (Lep.) and *Catocala relicta* at Newark, by Mr. Broadwell.

Mr. Buchholz exhibited a ♂ of *Argynnis idalia*, caught by himself at Plainfield, N. J., with primaries almost black; secondaries entirely black on top and marginal row of silvery spots underneath absent; submarginal row almost wanting and inner ones greatly reduced.

Semiophora janualis, *Agrotis geniculata*, *Porosagrotis muræ-nule*, *Mamestra laudabilis* and *Acronycta tritona* at Lakehurst, N. J., were reported by Messrs. Keller and Buchholz.

After adjournment of the business meeting the 21st anniversary of the Society was celebrated; a good supper and refreshments were amply provided for by the committee in charge. The music was furnished by Professors Weidt and Wormsbacher and an all around good humor prevailed until the end.

The November meeting of the Newark Entomological Society was held on the 12th, with President Keller in the chair and 13 members present.

The officers' election resulted as follows: President, Mr.

Geo. J. Keller, re-elected; Vice President, Mr. H. H. Brehme; Secretary, Mr. Otto Buchholz, re-elected; Treasurer, Mr. S. Seib, re-elected; Librarian, Mr. Wm. Broadwell, re-elected; Curator (Lep.), Mr. J. B. Angelman, re-elected; Curator (Col.), Mr. E. A. Bischoff, re-elected.

Mr. Wasmuth exhibited some rare specimens of Lepidoptera; among them were: *Sphinx franckii*, *Sphinx canadensis*, *Ellema coniferarum* (larvæ), *Papilio philenor wasmuthi*, ♀ of *Arctia nevadensis*, *Catocala elda* and a ♀ of *Argynnis nokomis*.

Mr. Buchholz had specimens of a new species of *Acronycta* caught at Elizabeth, N. J. OTTO BUCHHOLZ, *Secretary*.

Minutes of meeting of Brooklyn Entomological Society, held at the residence of Mr. George Franck, 1040 DeKalb avenue, Brooklyn, N. Y., on October 5, 1905. Eighteen persons present, the president in the chair. Mr. James Lever, of Brooklyn, was duly elected a member.

Prof. John B. Smith gave an outline of the work connected with the extermination of mosquitoes in Staten Island and the adjacent Long Island salt marshes, with photographs showing apparatus and localities. Investigation had proved that in the spring of 1905, *Culex sollicitans* did not breed in New Jersey, but did breed on Staten Island, from whence the insects had been traced in their flight to the Orange Mts. and thence to Madison and Morristown, N. J. It became essential therefore that action should be taken by the New York City authorities, who had accordingly, upon application, appropriated $17,000, based on the report and estimate of Mr. Brehme, who had examined the conditions on the Island. This sum had been further reduced on advertised bids to $15,500 and the work of eliminating mosquito breeding areas there was rapidly progressing. The Brooklyn City Railroad Company was also greatly aiding in the matter by removing ashes on specially constructed box cars, each car conveying four giant ash cans holding many tons of material, which, by means of cranes, was expeditiously dumped upon the Coney Island and Gravesend marshes, whereby, not only was the refuse promptly taken away, but much worthless meadow was being reclaimed and made val-

uable and incidentally the breeding places of mosquitoes were becoming greatly diminished.

Professor Smith further explained that the unusual freedom from mosquitoes which large sections of Long Island enjoyed the past summer was due to the lack of rain during the previous spring and the consequent drying up of pools and marshes to such an extent that subsequent showers proved insufficient to provide moisture enough for the development of the eggs and larvæ.

Mr. Wasmuth exhibited a fine series of *Apantesis ọithona* and variation *rectilinea*, the latter heretofore recorded only from the Mississippi Valley, which he had found resting on grass stems in a field near Woodhaven, L. I., about May 15.

Mr. H. H. Newcomb, of Boston, being present, gave the Society much interesting information concerning the progress of things entomological and collections in that city.

ARCHIBALD C. WEEKS, *Secretary.*

A stated meeting of the Feldman Collecting Social, of Philadelphia, was held November 15, 1905, 11 members present.

Mr. Laurent exhibited specimens of *Erannis tiliaria* and *Euchlaena obtusaria*, taken at Mount Airy, Philadelphia. The first-named species was not in Mr. Laurent's list of Pennsylvania moths published some time ago.

Mr. Daecke stated that he had received a communication from Professor Hine in which he reports a typical specimen of *Chrysops amazon* from New Hampshire. Mr. Daecke also exhibited specimens of *Rhagoletis pomonella*, bred on huckleberry.

A few overripe huckleberries infested by small dipterous larvæ were collected at Da Costa, N. J., Aug. 16, 1904. The larvæ went into the ground to pupate. One imago emerged May 31st, 1905, and proved to be *Rhagoletis pomonella* Walsh, belonging to the family Trypetidæ. The larva is the well-known apple maggot.

Mr. Wenzel exhibited the work of a Scolytid in roots of huckleberry. The species is *Corthylus punctatissimus*, taken by

Mr. Wenzel, Jr., on October 22nd, at Cape May Court House. This is the only subterranean Scolytid known.

Mr. H. W. Wenzel exhibited a collection of Coleoptera, made by H. Wenzel, Jr., on Tybee island, on the coast of Georgia, during the latter part of July, approximating 3,000 specimens. The collection contained a great number of very interesting species. Carabidae were rarely found on the ground. A species of *Gelasimus* (fiddeler crab) is sole proprietor of all soil in the woods. In going over the collection the speaker dwelt on the following species: By beating trees, *Pterostichus submarginatus*, *Plochionus amandus*, and other Carabidae were found. Among the Histeridae a beautiful blue species near *Paromalus*—probably a new species. In the Elateridae several very interesting species—*Dendrocharis flavicornis*, *Stethon errans*, *Nematodes pavidus*; a species near *Monocrepidius*, unknown to the speaker, was found at night on the sand hills near the beach; this is a pale unicolored insect. In Buprestidae—*Xenorhipes brendeli*, *Actenodes auronotatus* and other species. *Drapetes geminatus* and *D. rubricollis*. In Cleridae *Hydnocera aegra* and other species. Ptinidae—twenty species were taken, including several species recently described by Mr. Fall. In Scarabæidæ, a number of species, *Lachnosterna glaberrima* being common. Cerambycidae are represented by a number of species. *Lypsimena fuscata* in numbers showing a great difference in size. Chrysomelidae represented by a number of species. *Bruchus coryphae* and *B. cruentatus*, the former a most beautiful species, in numbers. Tenebrionidae not numerous, *Platydema cyanescens*, a fine species was taken. Oedemeridae, Mordellidae and Anthici are represented, *Formicomus scitulus* a beautiful little species was found common with *Mecynotarsus candidus* and *Anthicus pallens*. The Curculionidae are well represented, especially *Conotrachelus* and allied genera, probably one or two new species. Scolytidae not numerous. Anthribidae are well represented.

A complete list of all species found on Tybee Island by Dr. Castle and Mr. Wenzel will be published in ENTOMOLOGICAL NEWS.

F. HAIMBACH, *Secretary*.

EXCHANGES.

Not Exceeding Three Lines Free to Subscribers.

☞ These notices are continued as long as our limited space will allow; the new ones are added at the end of the column, and only when necessary those at the top (being longest in) are discontinued.

Ova wanted.—I will pay 3 cents each for any number up to 100 of fertile eggs of *Enchætisa Orgenensis* accompanied by the parent female. —H. H. Lyman, 384 St. Paul Street, Montreal, Canada.

I have many fine specimens of Entomology in papers left over from last season and will exchange and collect in this locality for Southern and Western specimens.—C. H. Ross, Des Moines, Iowa.

Wanted to Exchange.—Butterflies and moths from every country in the world. Many beautiful foreign specimens to exchange. California specimens in large quantities.—R. C. Winslow, Santa Clara, California.

Wanted.—Insect Life, Vol. iii, 2, 4, 11, 12; iv, 5, 6, 7, 8, 9, 10; v, 3, 4; vi, 3. Also other works on economic entomology not in my library. Will pay cash or exchange.—J. C. Crawford, Box, 208, Dallas, Texas.

Wanted.—Records of Captures of Connecticut insects—especially the rarer species—for the preparation of a State list. Orthoptera and Hymenoptera records desired at once.—W. E. Britton, State Entomologist, New Haven, Conn.

Wanted mounted humming birds and other brilliant colored birds, in exchange for rare exotic, native butterflies and moths, cocoons of *Ceanothi*, *Gloveri* and pupæ and cocoons of other species.—C. F. Timm, 170 Bleeker St., Brooklyn, N. Y.

Cicindelidæ of the world desired. Good exchange offered.—H. F. Wickham, Iowa City, Iowa.

Wanted.—Specimens and data concerning parasitism by Strepsiptera (Stylopidæ). Correspondence solicited.—W. Dwight Pierce, Box 208 Dallas, Texas.

Coleoptera.—Many rare species offered in exchange.—Geo. W. Bock, M.D., 1221 Morrisson Ave., St. Louis, Missouri.

I have the life history in Riker mounts of *Alaria florida*, *Utethesia bella*, *Synchlæ genutia*, *Vanessa io* and others for exchange.—Carl Ilg, 2539 Douglas St., Phila., Pa.

Wanted for cash, 100 *A. ceanothi* cocoons.—Geo. Kircher, 136 Grace St., Jersey City, N. J.

Luna cocoons in exchange for exotic Lepidoptera.—M. F. Reyher, 1601 Willington St., Philadelphia, Pa.

Cocoons of *S. cynthia*, *A. promethea* and *A. cecropia* in large or small quantity to exchange for other North American pupæ or Lepidoptera in papers.—John H. West, 2235 E. Letterly St., Phila., Pa

Coleoptera.—Aleocharidæ of the world wanted. Will give good exchange in California Coleoptera.—A. Fenyes, M.D. Pasadena, Cal.

Correspondence wanted, especially from Southern and Western States, Central and South America in order; to exchange living pupæ and cocoons, also butterflies and moths in papes.—Herman J. Erb, Union Hill, New Jersey.

Wanted.—Cocoons and pupæ of North American Lepidoptera for cash or exchange.—Amer. Ent. Co, 1040 DeKalk Ave., Brooklyn, N. Y.

I have for exchange perfect examples of *Baileya ophthalmica*, *Scopelsoma devia*, *tristigmata*, *Xylina grotei*, and many other local species of Lepidoptera for exchange--Fred. Marloff, Oak Station P. O., Allegheny Co., Pa.

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